

REMARKS

This communication is considered fully responsive to the Office action mailed June 8, 2004. Claims 1-31 were examined and stand rejected. Claims 2, 4, 13, 14, 16, 17, and 31 are amended. Claims 1, 3, 5, 7, 18, 23, 26, and 28-30 are cancelled. Claims 32-44 are added. Reexamination and reconsideration are requested.

Claim Rejections – 35 USC §102

Claims 1, 3, 5, 7, 17, 26, and 28-31 stand rejected as purportedly being anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 5,881,182 to Fiete et al. ("Fiete"). Claims 1, 3, 5, 7, 26, and 28-30 have been canceled. Claim 17 has been amended to incorporate a feature recited in claim 18, and is now believed allowable. The Applicant traverses the rejection of claim 31.

Claim 17 has been amended to incorporate the local radial angular transform feature of claim 18, which has been rejected under 35 U.S.C. §103(a). Accordingly, the Applicant's remarks relating to claim 17 will be made below with regard to the obviousness rejection of claim 18.

Claim 31 recites "detecting line defects in the image of a specified range of sharpness". While Fiete touts the goal of preserving sharpness, Fiete makes no disclosure or suggestion of using a specified range of sharpness in a defect detection operation. Indeed, Fiete fails to teach any sharpness determination, range, or comparisons at all. Accordingly, Fiete fails to anticipate or make obvious the invention of claim 31. Allowance of claim 31 is respectfully requested.

Claim Rejections – 35 U.S.C. § 103

Claim 16 stands rejected under 35 U.S.C. §103(a) as being purportedly unpatentable over Fiete. Claim 16 has been amended to depend from claim 2, which is believed allowable as discussed below. Accordingly, claim 16 is now believed patentable for at least the same reasons as claim 2. Allowance of claim 16 is respectfully requested.

Claim 23 stands rejected under 35 U.S.C. §103(a) as being purportedly unpatentable over Fiete in view of the Sony Corporation publication authored by Hirani and Totsuka, referred to herein as "Harani". Claim 23 has been canceled.

Claims 2, 4, 6, 8-15, 18, 19-22, 24-25, and 27 stand rejected under 35 U.S.C. §103(a) as being purportedly unpatentable over the combination of Fiete and U.S. Patent No. 6,408,109 to Silver et al. ("Silver"). The Applicant respectfully traverses the rejection.

Claim 2 recites "detecting line defects in the image by application of a local radial angular transform". The Office admits that Fiete fails to disclose this feature but points to FIGs. 3A and 3B in Silver as disclosing it, stating that "these shapes and overlays are considered to be functionally equivalent to local radial angular transforms in that they determine the direction and magnitude of the gradients." However, the Office's statement of functional equivalence is wholly unsupported in the Office Action and is further unsupported by the disclosure in Silver.

First, the Office fails to explain how the "shapes and overlays" of FIGs. 3A and 3B might teach a "local radial angular transform" as recited in claim 2. The Office appears to equate Silver's method for determining gradients with the recited local radial angular transforms but gives no justification for this assertion. That one method is purported to detect edges in an image and the other is recited to detect line-like defects does not suggest equivalence. Edges and line-like defects are different image feature with different properties. In fact, the application of gradient estimates to edge detection suggests non-equivalence in that most images are expected to contain edges that are not detected as "defects" by the local radial angular transform method recited in claim 2. Nevertheless, the Office has failed to support its conclusory statement of equivalence and, therefore, the rejection of claim 2 should be withdrawn – Silver does not disclose detecting defects by a local radial angular transform.

Furthermore, the image gradient estimates used in the edge detection of Silver identify a local maximum of brightness in a given direction. In contrast, a local radial angular transform yields a vector of transformation coefficients, wherein the magnitude of one of the vector elements is said to be an indicator of

the presence of a line-like feature. While edge/line-like features may be detected in these methods, the implementations are quite distinct and Silver provides no disclosure otherwise.

Moreover, based on the description in Silver, the Undersigned finds no similarity between the gradient estimate method of Silver and the local radial angular transform method of claim 2. In particular, Silver makes no reference to angular transforms of any kind, and the disclosures of square and hexagonal grids in FIGs. 3a and 3b do not teach the recited local radial angular transform method – they are merely described as methods of “choosing neighbors” in Silver. If the Office possesses undisclosed personal knowledge or additional references supporting its position and still intends to maintain the rejection, the Applicant requests that the Office proffer its arguments and supporting references in a second non-final Office Action. Otherwise, the Applicant strenuously asserts that there is no disclosure or suggestion of a local radial angular transform in Silver. Therefore, the combination of Fiete and Silver fails to make obvious the invention of claim 2, and allowance of claim 2 is respectfully requested.

Claims 4, 6, and 8-15 depend from claim 2, which is believed allowable. Therefore, claims 4, 6, and 8-15 are believed to be patentable for at least the same reasons as claim 2. Allowance of claims 4, 6, and 8-15 is respectfully requested.

Claim 18 stands rejected. In response, claim 17 has been amended to include the “local radial angular transform” of claim 18, and claim 18 has been cancelled. As argued with regard to claim 2, the combination of Fiete and Silver fails to make obvious the invention of claim 17 at least because neither reference discloses or suggests “detecting line defects in the image using a local radial angular transform”. Therefore, claim 17 is believed to be patentable for at least the same reasons as claim 2. Allowance of claim 17 is respectfully requested.

Claims 19-20 depend from claim 17, which is believed allowable. Therefore, claims 19-20 are believed to be patentable for at least the same reasons as claim 17. Allowance of claims 19-20 is respectfully requested.

Claims 21-22, 24-25, and 27 depend from claim 2, which is believed allowable. Therefore, claims 21-22, 24-25, and 27 are believed to be patentable for at least the same reasons as claim 2. Allowance of claims 21-22, 24-25, and 27 is respectfully requested.

New Claims

Claims 32-44 have been added, and are believed allowable for at least the same reasons as claim 2.

Conclusion

Based on the amendments and remarks herein, the Applicant respectfully requests prompt issuance of a notice of allowance for claims 2, 4, 6, 8-17, 19-22, 24-25, 27, and 31-44 in this matter.

Respectfully Submitted,

Dated: 9-8-04

By: 

Richard J. Holzer, Jr.
Reg. No. 42,668
(720) 377-0774